

Patent claims

1. A mixture comprising isomeric N,N'-ethylene-bis(hydroxyphenyl)glycines, wherein the molar ratio of N,N'-ethylene-(2-hydroxyphenyl)-glycyl-(4-hydroxyphenyl)glycine (o,p-EDDHA) to N,N'-ethylene-bis(2-hydroxyphenyl)glycine (o,o-EDDHA) is higher than 0.8 : 1.
2. Metal complexes of mixtures comprising isomeric N,N'-ethylene-bis(hydroxyphenyl)-glycines, wherein the molar ratio of N,N'-ethylene-(2-hydroxyphenyl)-glycyl-(4-hydroxyphenyl)glycine (o,p-EDDHA) to N,N'-ethylene-bis(2-hydroxyphenyl)glycine (o,o-EDDHA) is higher than 0.8 : 1
3. Metal complexes according to claim 2, said metal complexes being ferric chelates of EDDHA.
4. Mixture according to claim 1, wherein the ratio of isomeric o,o- to o,p-EDDHA is of from 0.9 : 1 to 100:1.
5. Process for the preparation of a mixture according to claim 1 comprising reacting phenol simultaneously in a three component reaction with ethylenediamine and glyoxylic acid while selecting the reaction conditions in a way that directs the isomeric ratio of the generated EDDHA to be higher than 0.8 : 1.
6. Process for the preparation of a mixture according to claim 1 comprising the steps of reacting hydroxybenzaldehyde with diaminoethane in a first step, reacting the resulting aldimine with hydrocyanic acid and hydrolysing the resulting intermediate to yield the end-product.
7. Process for the preparation of a mixture according to claim 1 comprising conversion of o,o-EDDHA into o,p-EDDHA by changing the pH value at elevated temperature.
8. A agrichemical composition comprising as active component the mixture of o,p-EDDHA and o,o-EDDHA according to any one of the claims 1 to 7, or a metal complex thereof.

9. A composition according to claim 8, comprising further additional plant nutrients or plant fertilizers, herbicides, insecticides, fungicides, bactericides, nematocides, molluscicides or mixtures thereof
10. A composition according to claim 9 comprising as additional active components urea, potassium oxide, an inorganic nitrate, a sulfonyl urea or a mixture thereof.
11. A composition according to any one of the claims 8 to 10 comprising 1 to 99 weight percent of ferric chelates of N,N'-ethylene-bis(hydroxyphenyl)glycines, wherein the ratio of o,p-EDDHA to o,o-EDDHA is higher than 0.8:1; 1 to 20 weight percent of urea and 0 to 50 weight percent of potassium oxide.
12. The use of a mixture according to any one of claims 1 to 11 as a plant nutrient or fertilizer, or for the treatment of chlorosis of plants.
13. The method of treating plant chlorosis in cultivated plants comprising administering to the plant or the area where it is planted an effective amount of a mixture according to any one of the claims 1 to 11 .